

CLAIMS

The following is a detailed listing of all claims that are, or were, in the Application.

1-25. Canceled

26. (Previously presented) A document management system, comprising:

a document storage device configured to store at least one XML-electronic document describing metadata related to a broadcasting program and comprising an upper element and a lower element; and

a document receiving device coupled to the document storage device, wherein the document receiving device is configured to process one of multiple versions of the XML electronic document according to a version value of the versions of the XML electronic document, wherein date information and time information of contents of the XML electronic document are used as the version value.

27. (Canceled)

28. (Previously presented) The document management system of claim 26, wherein a lower element version value is updated when content of the lower element of the XML electronic document is changed, and wherein the updated lower element version value is used as a corresponding upper element version value.

29. (Previously presented) The document management system of claim 26, wherein each element version value includes date and time information according to when said contents of the corresponding element was updated.

30. (Previously presented) The document management system of claim 26, wherein the document receiving device is configured to request the XML documents.

31. (Previously presented) The document management system of claim 29, wherein each element version value includes date and time information when contents of the corresponding element was changed.

32. (Previously presented) The document management system of claim 28, wherein a type of the content of the lower element is included in the upper element version value.

33. (Currently amended) The document management system of claim 26, wherein version information of said contents is defined by a syntax ~~defining a structure of~~ said electronic document.

34. (Previously presented) The document management system of claim 33, wherein said syntax is XML schema.

35. (Previously presented) The document management system of claim 34, wherein said contents includes at least one number selected from the group of title, synopsis, review, and casting of said broadcasting program.

36. (Previously presented) For an electronic document describing metadata related to a broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for updating one of the elements stored in a client, the method comprising:

requesting an updated version of said element of the electronic document describing metadata related to a broadcasting program;

receiving said updated version of said element, wherein said updated version is identified by an element identification including an element version, wherein said element version comprises date information and/or time information; and

updating said element stored in said client with said received updated version of said element and without replacing the electronic document in its entirety.

37. (Previously presented) The method of claim 36, wherein said element version includes date and time information according to when contents of the element were updated.

38. (Previously presented) The method of claim 37, wherein said element version includes date and time information according to when said contents of the element were changed.

39. (Previously presented) The method of claim 36, wherein said requesting comprises transmitting a current version of said element, and wherein said element version of said received updated version is later than an element version of said current version.

40. (Previously presented) The method of claim 36, wherein said element comprises an upper structure and a lower structure in hierarchical arrangement, wherein when said lower structure of said element is changed, a version value of the lower structure is updated and the updated version value is reflected in a version value of said upper structure.

41. (Previously presented) The method of claim 40, wherein a largest value of the version values of the lower structures is used as the version value of the upper structure.

42. (Previously presented) The method of claim 41, wherein a type of the updated lower structure is included in the version value of the upper structure.

43. (Currently amended) The method of claim 37, wherein said element version of said contents is defined by a syntax ~~defining a structure~~ of said element electronic document.

44. (Previously presented) The method of claim 43, wherein said syntax is XML schema.

45. (Previously presented) The method of claim 44, wherein said contents includes at least one member selected from the group of title, synopsis, review, and casting of the broadcasting program.

46. (Previously presented) For an electronic document describing metadata related to a television broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for updating one of the elements stored in a client, the method comprising:

requesting from a provider an updated version of said element of the electronic document describing metadata related to a television broadcasting program; and

updating said element stored in said client with a version later than a version of said element stored in said client and without replacing the electronic document in its entirety, wherein said later version is identified by an element identification including an element version from said provider, wherein said element version comprises date information and/or time information.

47. (Previously presented) For an electronic document describing metadata related to a broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for processing a response to a request for updating one of the elements stored in a client, the method comprising:

updating said element stored in said client with an updated version of said element and without replacing the electronic document in its entirety, wherein said updated version is identified by an element identification including an element version, wherein said element version comprises date information and/or time information.

48. (Previously presented) The method of claim 47, comprising receiving said updated version of said element identified by said element identification and said element version from a provider.

49. (Previously presented) The method of claim 47, wherein said element version includes date and time information according to when said metadata of the element were updated.

50. (Previously presented) The method of claim 49, wherein said element version includes date and time information according to when said metadata of the element were changed.

51. (Previously presented) The method of claim 47, wherein said request comprises a selected version of said element, and wherein said received updated version of said element is later than said selected version.

52. (Previously presented) The method of claim 47, wherein said element comprises an upper structure and a lower structure in hierarchical arrangement, wherein when said lower structure of said element is changed, a version value of the lower structure is updated and the updated version value is reflected in a version value of said upper structure.

53. (Previously presented) The method of claim 52, wherein a largest value of the version values of the lower structures is used as the version value of the upper structure.

54. (Previously presented) The method of claim 53, wherein a type of the updated lower structure is included in the version value of the upper structure.

55. (Currently amended) The method of claim 47, wherein said element version is defined by a syntax ~~defining a structure~~ of said element electronic document, and wherein said syntax is XML schema.

56. (Previously presented) The method of claim 47, wherein said metadata includes at least one member selected from the group of title, synopsis, review, and casting of said broadcasting program.

57. (Canceled)

58. (Previously presented) For an electronic document describing metadata related to a broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for providing an updated version of one of the elements, the method comprising:

receiving a request from a client for the updated version of said element of the electronic document describing metadata related to a broadcasting program;

determining whether a provider has a capability of handling said requests for the updated version; and

supplying said updated version of said element in accordance with a determined result, wherein said updated version is identified by an element identification including an element version, wherein said element version comprises date information and/or time information.

59. (Previously presented) The method of claim 58, wherein said request for said updated version of said element identifies said element using element identification and a current element version.

60. (Previously presented) The method of claim 58, comprising identifying a version of said element later than a requested version of said element in said provider as said updated version of said element.

61. (Previously presented) The method of claim 58, wherein said element version includes date and time information according to when said metadata of the element were updated.

62. (Previously presented) The method of claim 61, wherein said element version includes date and time information according to when said metadata of the element were changed.

63. (Previously presented) The method of claim 58, wherein said element comprises an upper structure and a lower structure in hierarchical arrangement, wherein when a said lower structure of said element is changed, a version value of the lower structure is updated and the updated version value is reflected in a version value of said upper structure.

64. (Previously presented) The method of claim 63, wherein a largest value of the version values of the lower structures is used as the version value of the upper structure.

65. (Previously presented) The method of claim 64, wherein a type of the updated lower structure is included in the version value of the upper structure.

66. (Currently amended) The method of claim 58, wherein said element version is defined by a syntax ~~defining a structure of said element~~ electronic document.

67. (Previously presented) The method of claim 66, wherein said syntax is XML schema.

68. (Previously presented) The method of claim 67, wherein said metadata includes at least one member selected from the group of title, synopsis, review, and casting of the broadcasting program.

69. (Previously presented) For an electronic document describing metadata related to a broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for replying to a request for updating one of the elements stored in a client, the method comprising:

supplying said client with an updated version of said element of the electronic document describing metadata related to a broadcasting program, wherein the updated version is identified by an element identification including an element version, wherein said element version comprises date information and/or time information.

70. (Previously presented) For an electronic document describing metadata related to a television broadcasting program and having a plurality of elements, wherein each element is based on XML, a method for managing one of the elements stored in a client, the method comprising:

using a version information of said element of the electronic document describing metadata related to the television broadcasting program, wherein said version information comprises date information and/or time information.

71. (Previously presented) The method of claim 70, comprising transmitting updated versions of said element identified by said element information including at least said element version information.

72. (Previously presented) The method of claim 71, wherein each element version information includes date and time information according to when said metadata of said element were updated.

73. (Previously presented) The method of claim 72, wherein each element version information includes date and time information according to when said metadata of the element were changed.

74. (Previously presented) The method of claim 71, comprising receiving a request for an updated version of said element.

75. (Previously presented) The method of claim 70, wherein said element comprises an upper structure and a lower structure in hierarchical arrangement, wherein

when said lower structure of said element is changed, a version value of the lower structure is updated and the updated version value is reflected in a version value of said upper structure.

76. (Previously presented) The method of claim 75, wherein a largest value of the version values of the lower structures is used as the version value of the upper structure.

77. (Previously presented) The method of claim 76, wherein a type of the updated lower structure is included in the version value of the upper structure.

78. (Currently amended) The method of claim 70, wherein said element version information is defined by a syntax ~~defining a structure of said element~~ electronic document.

79. (Previously presented) The method of claim 78, wherein said syntax is XML schema.

80. (Previously presented) The method of claim 79, wherein said metadata includes at least one member selected from the group of title, synopsis, review, and casting of the television broadcasting program.

81. (New) A method for processing a first metadata stored in a client, wherein the first metadata is related to a broadcast program and is based on markup language, the method comprising:

requesting an updated version of the first metadata by the client; and

receiving a final version and an identifier of the first metadata if the identifier of the first metadata is reused as an identifier of a second metadata and the requested updated version is a version prior to a deletion of the first metadata in a server.

82. (New) The method of claim 81, wherein the first metadata is stored in the client and the server.

83. (New) The method of claim 81, wherein the version information includes at least one of date and time information.

84. (New) The method of claim 81, wherein the broadcast program is a television broadcast program.

85. (New) The method of claim 81, wherein the metadata is defined by a syntax of an electronic document.

86. (New) The method of claim 85, wherein the syntax is XML schema.